OIPE JC14
MAR 0 3 2005
PATENT & TRADEMARK OFFICE

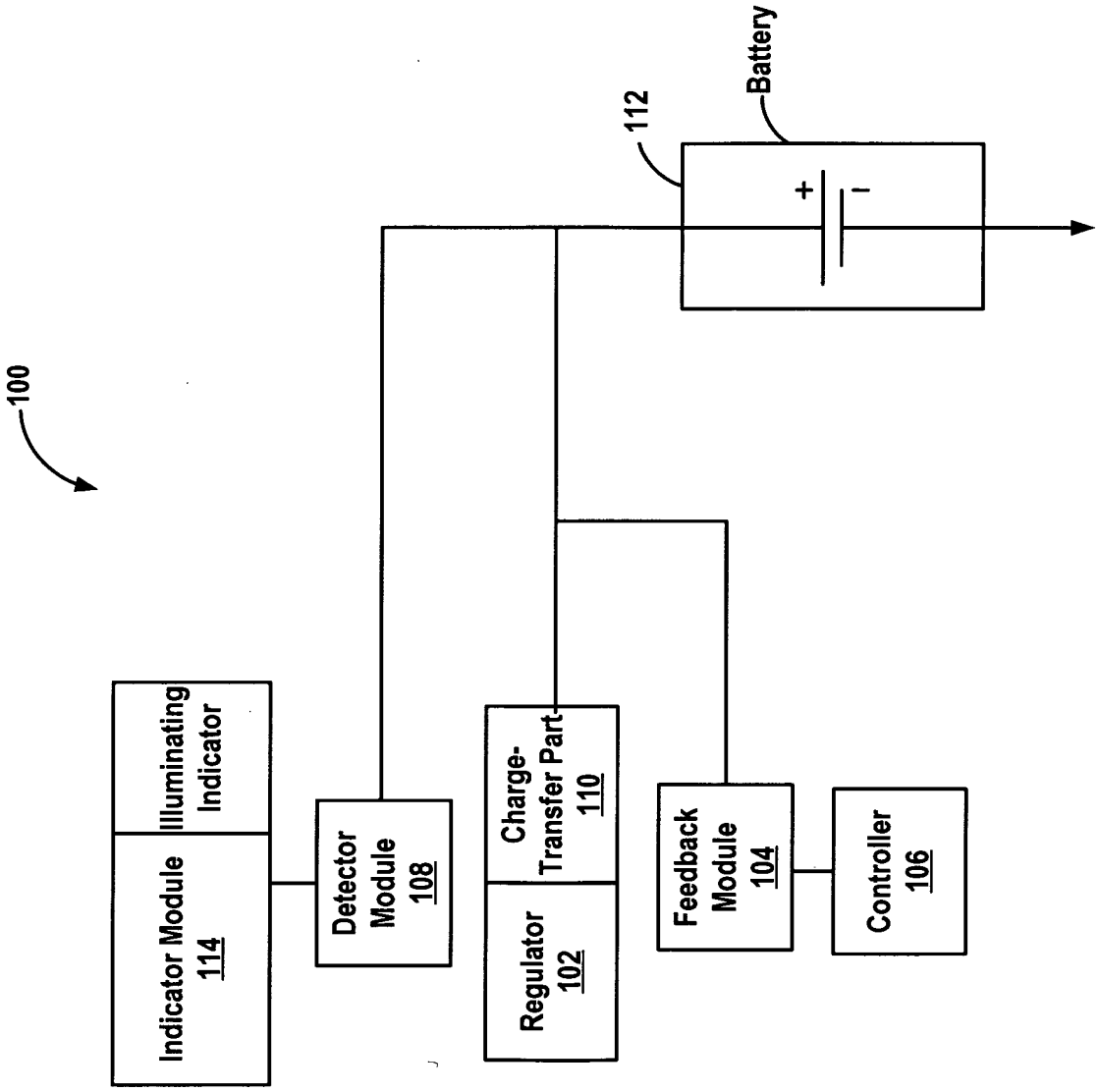

FIG. 1

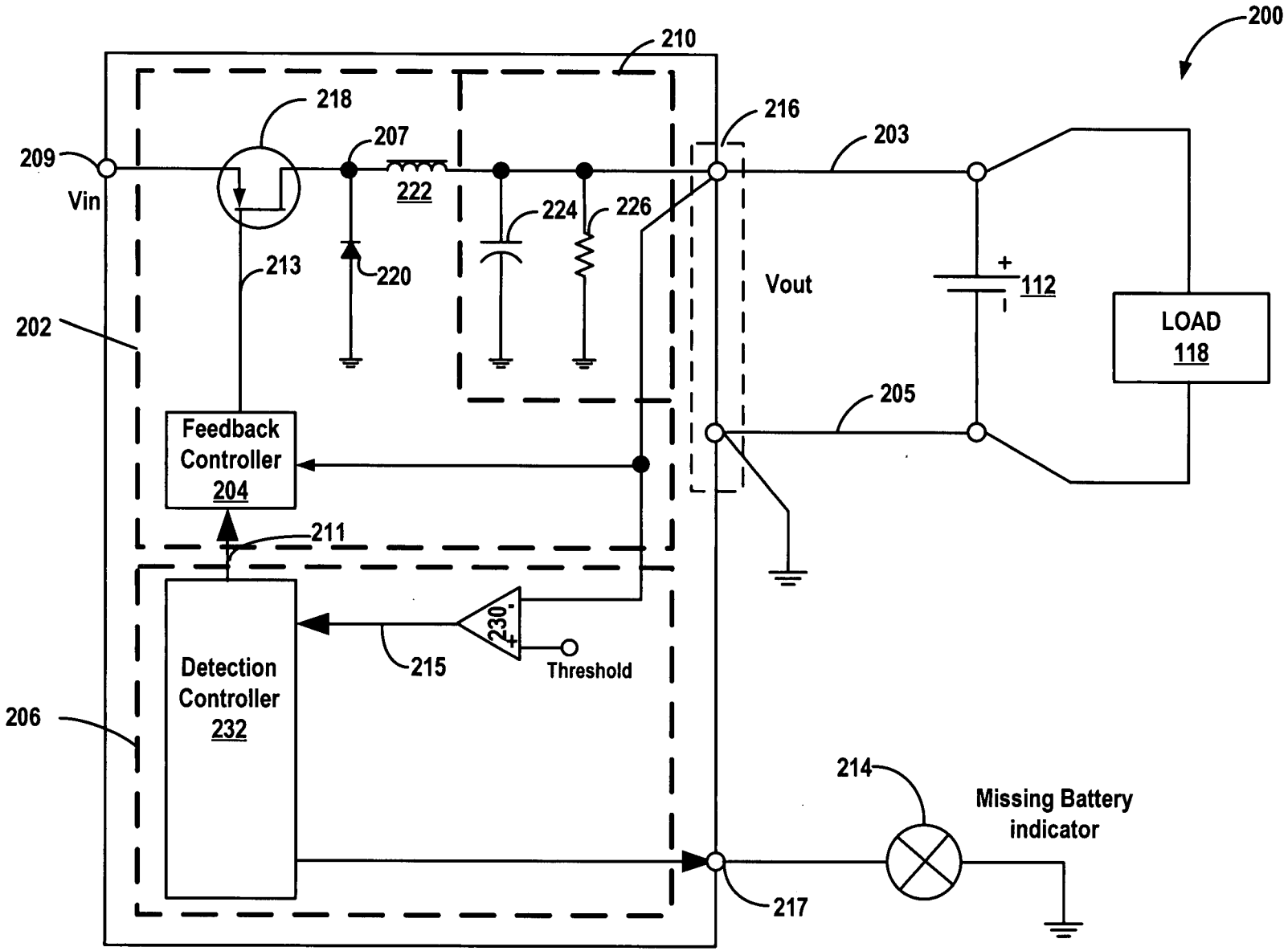
200
210
218
207
216
203
209
Vin
222
224
226
213
220
Vout
112
LOAD
118
202
205
Feedback
Controller
204
211
230
215
Threshold
Detection
Controller
232
206
214
Missing Battery
indicator
217

FIG. 2

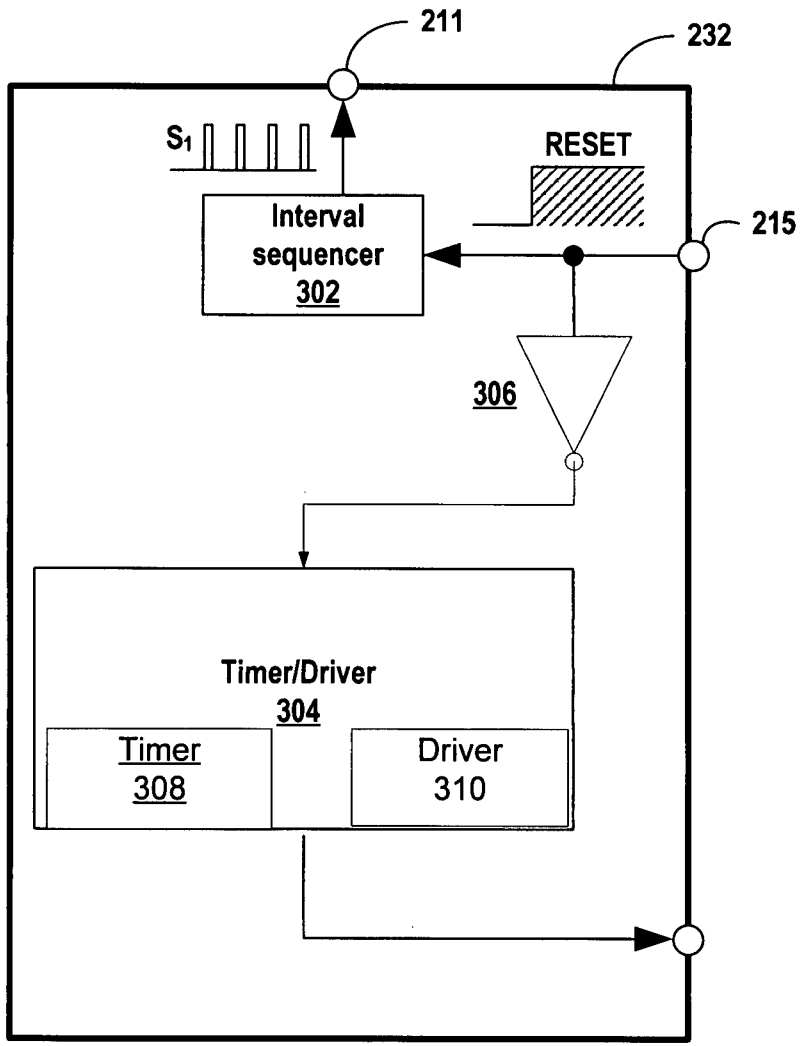
211
232
S1
RESET
Interval sequencer 302
215
306
Timer/Driver 304
Timer 308
Driver 310

FIG. 3a

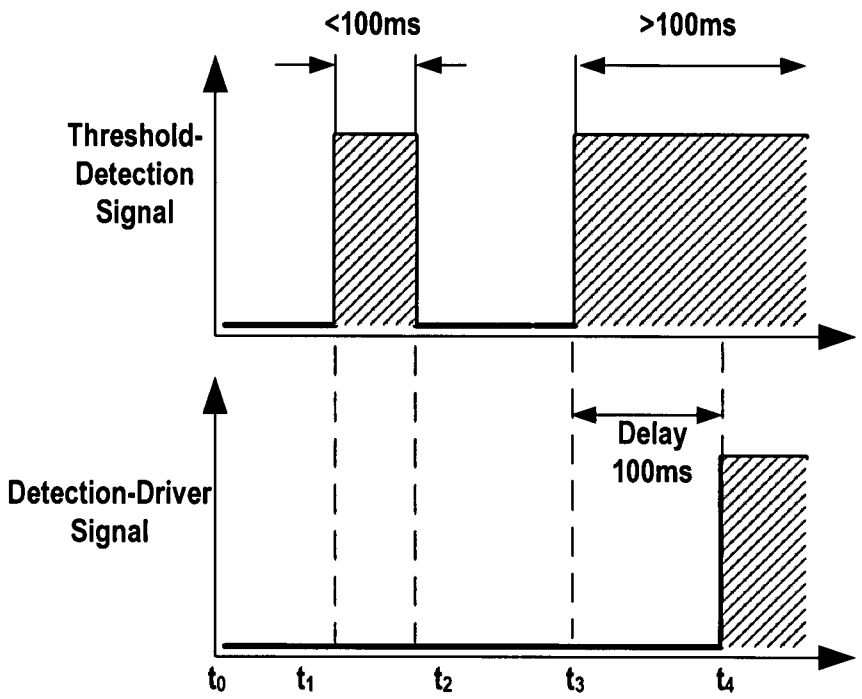
<100ms
>100ms
Threshold-Detection Signal
Delay 100ms
Detection-Driver Signal
t0
t1
t2
t3
t4

FIG. 3b

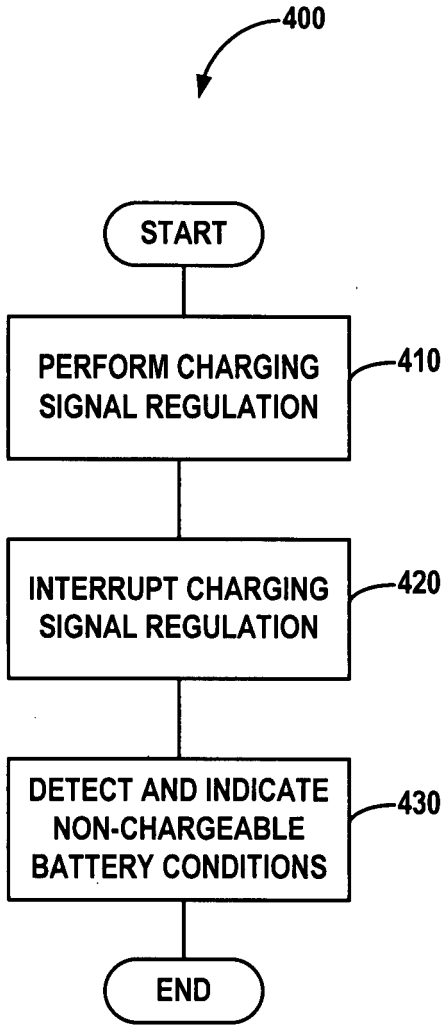
400
START
PERFORM CHARGING SIGNAL REGULATION
410
INTERRUPT CHARGING SIGNAL REGULATION
420
DETECT AND INDICATE NON-CHARGEABLE BATTERY CONDITIONS
430
END

FIG. 4

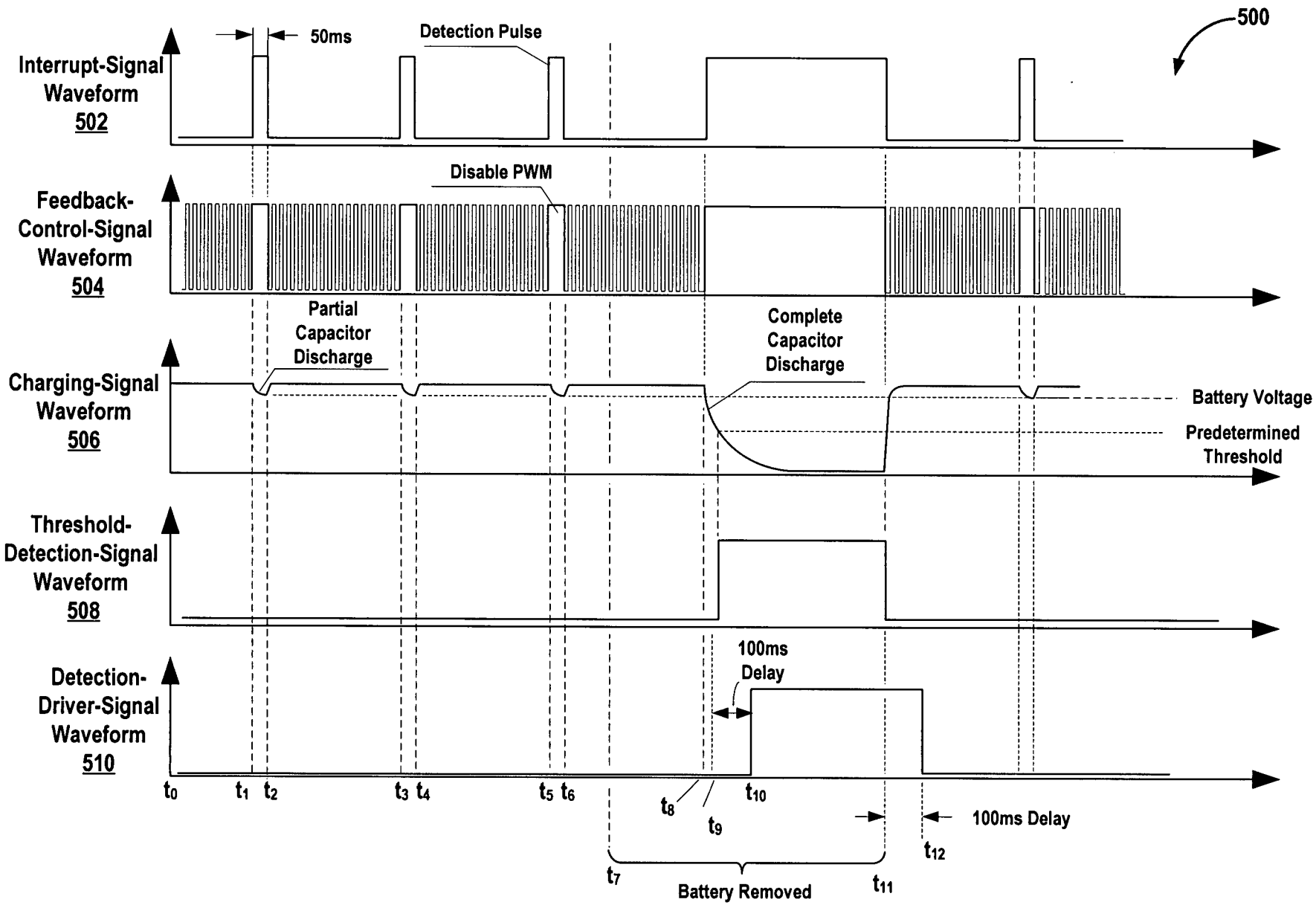
500
Interrupt-Signal Waveform 502
50ms
Detection Pulse
Feedback-Control-Signal Waveform 504
Disable PWM
Charging-Signal Waveform 506
Partial Capacitor Discharge
Complete Capacitor Discharge
Battery Voltage
Predetermined Threshold
Threshold-Detection-Signal Waveform 508
Detection-Driver-Signal Waveform 510
100ms Delay
100ms Delay
Battery Removed
t0
t1
t2
t3
t4
t5
t6
t7
t8
t9
t10
t11
t12

FIG. 5